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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/085,326	02/28/2002	William R. Hanson	035451-0187	8496

26371 7590 03/11/2004

FOLEY & LARDNER
777 EAST WISCONSIN AVENUE
SUITE 3800
MILWAUKEE, WI 53202-5308

EXAMINER

LEFLORE, LAUREL E

ART UNIT	PAPER NUMBER
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2673

DATE MAILED: 03/11/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/085,326

Applicant(s)

HANSON ET AL.

Examiner

Laurel E LeFlore

Art Unit

2673

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-45 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-45 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 February 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "24" has been used to designate both spacers and buttons. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

2. The disclosure is objected to because of the following informalities: On page 4, in line 6 of paragraph [0044], "to draw write, draw" should be "to write, draw". Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1, 2, 11, 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Ashitomi et al. 5,216,411.

In regard to claim 1, Ashitomi discloses an electronic device comprising a cover coupled to a computing device. See column 1, lines 51-52, disclosing, "there is provided a cover for an indicator panel of electronic apparatus". Note in the figures and column 3, line 25, that the invention is on a video tape recorder. A video tape recorder is understood to be a computing device because it stores data and performs computations of and displays time.

The cover comprises at least one of a touch panel and a lighting system. See column 1, lines 63-64, disclosing, "The cover also includes a pair of touch sensitive panels made of a transparent material." Further see column 1, lines 55-56, disclosing, "The cover includes a frame means" and column 2, lines 6-7, disclosing, "a plurality of light sources are provided in the frame means".

Ashitomi further discloses a display coupled to the computing device and separate from the cover. See figures 1-3 (particularly figure 3, in which the cover is open) depicting the display and column 3, lines 35-40, disclosing, "A display panel unit 5...consists of a rectangular display plate 6...and a rectangular display element (LCD) 7". Further see column 3, lines 57-61, disclosing, "The cover 10 is pivotably mounted through the hinges 11a, 11a on the front panel such that the cover is fitted into the recess 3a of the front panel 3 and hides therebehind the lid 4 and the display panel unit 5 when held in a closed position."

5. In regard to claim 2, Ashitomi discloses that the cover comprises both a touch panel and a lighting system. See rejection of claim 1.

6. In regard to claim 11, Ashitomi discloses that the touch panel comprises a first sheet and a second sheet, wherein the first and second sheets include a conductive coating. See column 4, lines 26-37, disclosing, "The touch-sensitive panels 13 are made of a transparent thin-plate...The thin-plate includes a substrate made of glass [first sheet], a thin glass sheet [second sheet] opposed to the substrate...On the substrate are placed a plurality of transparent electrodes of a thin-film type [conductive coating on first sheet]...On the thin glass sheet are placed a plurality of transparent electrodes of a thin-film type [conductive coating on second sheet]".
7. In regard to claim 16, Ashitomi discloses that the cover further comprises a frame adjacent to the at least one of a touch panel and lighting system. See rejection of claim 1, disclosing a frame means.
8. Claims 1, 5, 8, 9 and 14 are rejected under 35 U.S.C. 102(e) as being anticipated by Moon 6,567,137 B1.

In regard to claim 1, Moon discloses an electronic device comprising a cover. See figure 4, element 60 and figure 5, depicting the electronic device in a closed state. Note that element 60 is hinged to fold over part of display module 54. In this way, element 60 is a cover. Also see column 3, lines 47-48, disclosing "an auxiliary light source 60 pivotally connected to the display module 54." Thus, the cover comprises at least one of a touch panel and a lighting system. In the invention of Moon, the cover comprises a lighting system.

Moon further discloses a display coupled to the computing device and separate from the cover. See figure 4 and column 3, lines 45-47, disclosing "a display module 54...housing a reflective liquid crystal display panel 52."

9. In regard to claim 5, Moon discloses that the lighting system comprises a light guide and a light source. See figure 7 and column 4, lines 9-10, disclosing, "As shown in FIG. 7, the auxiliary light source 60 includes a lamp 61...a light guide plate 63".
10. In regard to claim 8, Moon discloses a light bar adjacent to the light guide. Note lamp 61 of figure 7. This is understood to be a light bar.
11. In regard to claim 9, Moon discloses that the computing device includes a display and the light guide is configured to direct light toward the display when the cover is positioned over the display. See column 3, lines 55-58, disclosing, "the auxiliary light source 60 can be opened and closed from and to the display module 54. The auxiliary light source 60 radiates light onto an effective display area of the reflective liquid crystal display panel 52."
12. In regard to claim 14, Moon discloses that the display is one of a reflective and a transflective display. See figure 4 and the rejection of claim 1, disclosing a reflective liquid crystal display 52.
13. Claims 1, 3, 4, 17-19, 28, 31, 32, 38 are rejected under 35 U.S.C. 102(e) as being anticipated by Takahashi 6,662,244 B1.

In regard to claim 1, Takahashi discloses an electronic device comprising a cover coupled to a computing device. See figures 3 and 4, element 3,

depicting the cover. Note in the figures and lines 17-18 of column 3 that a portable telephone is disclosed, which is a computing device. Also see column 9, lines 4-8, disclosing, "the present invention...may alternatively be applied to a portable information terminal to realize a PDA (personal digital assistant) or some other information terminal."

Takahashi further discloses that the cover comprises at least one of a touch panel and a lighting system, namely both. See column 4, lines 12-16, disclosing, "As shown in FIG. 5, the input/display section 11 [Note in figure 4 that the input/display section is part of cover 3.] comprises a transmission type LCD (liquid crystal display 13 adapted to transmit light and provided with the functional feature of displaying information and a touch panel 7 also adapted to transmit light".

Takahashi further discloses a display coupled to the computing device and separate from the cover. See element 5 of figure 3 and column 3, line 26-29, disclosing, "The first housing 2 has...a display section 5 for displaying data."

14. In regard to claim 3, Takahashi discloses that the cover is coupled to the electronic device by at least one hinge. See element 4 of figures 3 and 4 and column 3, lines 44-45, disclosing, "the first housing 2 and the second housing 3 are connected at the respective hinged ends thereof".
15. In regard to claim 4, Takahashi does not explicitly state that at least one wire is coupled to the hinge for providing an electrical connection between the cover and the computing device. However, see figure 7, depicting touch panel 7 and

transmission type LCD 13, which are a part of the second housing 3, connected to control section 21. Note also that display section 5, which is part of the first housing 2, is connected to control section 21. Also see the rejection of claim 3, disclosing the first and second housing are connected at the hinges. Thus, it is inherent that at least one wire is coupled to the hinge for providing an electrical connection between the cover (housing 4) and the computing device (housing 2).

16. In regard to claim 17, Takahashi discloses a cover for a portable electronic device comprising a frame. See figures 3 and 4, element 3, depicting the cover. Note that the cover comprises a frame. Note in the figures and lines 17-18 of column 3 that a portable telephone is disclosed, which is a portable electronic device.

Takahashi further discloses a touch panel coupled to the frame and a lighting system coupled to the frame and configured to illuminate a display when the cover is positioned proximate the display. See column 4, lines 12-16, disclosing, "As shown in FIG. 5, the input/display section 11 [Note in figure 4 that the input/display section is part of cover 3.] comprises a transmission type LCD (liquid crystal display 13 adapted to transmit light and provided with the functional feature of displaying information and a touch panel 7 also adapted to transmit light". Claim 17 states "when the cover is positioned proximate the display". Thus, a cover that comprises a display is understood to be positioned proximate the display.



17. In regard to claim 18, Takahashi discloses that the cover is couple to a computing device housing. See rejection of claim 1. A portable telephone is understood to be a computing device. Also see column 9, lines 4-8, disclosing, "the present invention...may alternatively be applied to a portable information terminal to realize a PDA (personal digital assistant) or some other information terminal."
18. In regard to claim 19, Takahashi discloses that the display is coupled to a computing device. See rejections of claims 1 and 18.
19. In regard to claim 28, Takahashi discloses a portable electronic device comprising: a computing device having a housing and a display fixably attached to the housing See figures 3 and 4 and column 3, lines 20-23, disclosing, "the portable telephone set 1...comprises a...first housing 2, a second housing 3". A portable telephone is understood to be a computing device. Also see column 9, lines 4-8, disclosing, "the present invention...may alternatively be applied to a portable information terminal to realize a PDA (personal digital assistant) or some other information terminal." Further see column 3, lines 25-29, disclosing, "The first housing 2 has...a display section 5".

Takahashi further discloses a cover panel having a frame and rotatably coupled to the housing and movable between a first position and a second position. The cover panel and frame are understood to be housing 3 of figures 3 and 4. Note a frame is depicted in the figures. Further see column 3, lines 44-48, disclosing, "the first housing 2 and the second housing 3 are connected...by

way of the hinge section 4 so that the second housing 3 can be rotated around the hinge section 4 relative to the first housing 3.”

Takahashi further discloses a lighting assembly coupled to the frame and a touch panel coupled to the frame. See column 4, lines 12-16, disclosing, “As shown in FIG. 5, the input/display section 11 [Note in figure 4 that the input/display section is part of cover 3 and coupled to the frame.] comprises a transmission type LCD (liquid crystal display 13 adapted to transmit light and provided with the functional feature of displaying information and a touch panel 7 also adapted to transmit light”. The lighting assembly and touch panel are located proximate at least a portion of the display in the second position, as depicted in figures 3 and 4.

20. In regard to claim 31, see rejection of claim 28.

21. In regard to claim 32, Takahashi discloses means for providing an electrical connection between the computing device and at least one of the lighting assembly and the touch panel. See figure 7, depicting touch panel 7 and transmission type LCD 13, which are a part of the second housing 3, connected to control section 21. Note also that display section 5, which is part of the first housing 2, is connected to control section 21.

22. In regard to claim 38, Takahashi discloses a method for using a portable electronic device. Note in the figures and lines 17-18 of column 3 that a portable telephone is disclosed, which is a portable electronic device.

See figures 3-5 and column 4, lines 12-16, disclosing, "As shown in FIG. 5, the input/display section 11 [Note in figure 4 that the input/display section is part of cover 3.] comprises a transmission type LCD (liquid crystal display) 13 adapted to transmit light and provided with the functional feature of displaying information and a touch panel 7 also adapted to transmit light". Further see column 6, lines 47-50, disclosing, "the condition where the transmission type LCD 13 displays information and the entire surface of the touch panel 7 is operative is referred to as Mode-1". Thus, Takahashi discloses a cover (element 3) adjacent to at least a portion of a display (element 13) attached to a computing device, the cover comprising a touch panel (element 7) and a lighting assembly and further discloses illuminating at least a portion of the display.

Takahashi further discloses entering information into the computing device using the touch panel. See column 5, lines 51-53, disclosing, "The touch panel 7 detects the pressure applied thereto by the user and sends a signal corresponding to the detected pressure to the control section 21."

Takahashi further discloses positioning the cover. See figures 3 and 4 and column 3, lines 44-48, disclosing, "the first housing 2 and the second housing 3 are connected...by way of the hinge section 4 so that the second housing 3 can be rotated around the hinge section 4 relative to the first housing 2."

23. In regard to claim 42, see rejection of claim 38.

24. In regard to claim 44, Takahashi discloses in column 5, lines 51-53, "The touch panel 7 detects the pressure applied thereto by the user and sends a signal corresponding to the detected pressure to the control section 21." This application of pressure to a touch panel is understood to constitute drawing. Further see column 9, lines 4-8, disclosing, "the present invention...may alternatively be applied to a portable information terminal to realize a PDA (personal digital assistant) or some other information terminal." It is inherent that the application of pressure to a touch panel of a PDA comprises at least one of writing or drawing.
25. In regard to claim 45, Takahashi discloses in column 5, lines 51-53, "The touch panel 7 detects the pressure applied thereto by the user and sends a signal corresponding to the detected pressure to the control section 21." It is inherent that the user applies such pressure with a finger, pen or stylus.

Claim Rejections - 35 USC § 103

26. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

27. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Moon 6,567,137 B1 in view of Ashitomi et al. 5,316,411.

In regard to claim 6, Moon discloses an invention similar to that which is disclosed in claim 23. See rejection of claim 22 for similarities. Moon does not disclose that the light source comprises at least one light emitting diode.

Ashitomi discloses a cover for an electronic device comprising a lighting system in which the light source comprises at least one light emitting diode. See line 51 of column 4 and element 23 of figure 1 and the rejection of claim 6.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Moon by having the light source comprise at least one light emitting diode, as in the invention of Ashitomi. One would have been motivated to make since light emitting diodes are a common and conventional light source. Further, it is a matter of design choice to use an LED, rather than any other type of light source.

28. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Moon 6,567,137 in view of Yamashita et al. 2004/0022050 A1.

In regard to claims 7, Moon discloses an invention similar to that which is disclosed in claim 7. See rejection of claim 5 for similarities. Moon does not disclose that the light guide is made of at least one of polymethyl methacrylate (acrylic) and polycarbonate.

Yamashita discloses a light device with a light guide, teaching in paragraph [0153], "Especially, a methacrylate resin such as polymethyl methacrylate (PMMA) is suitable as a light guide material because of high

transmittance of rays of light, high resistance to heat, good mechanical properties and good molding performance.”

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Moon by making the light guide out of polymethyl methacrylate, as in the invention of Yamashita. One would have been motivated to make such a change based on the teaching of Yamashita that “polymethyl methacrylate (PMMA) is suitable as a light guide material because of high transmittance of rays of light, high resistance to heat, good mechanical properties and good molding performance.”

29. Claims 10 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ashitomi et al. 5,316,411 in view of Aufderheide et al. 6,555,235 B1.

In regard to claim 10, Ashitomi discloses an invention similar to that which is disclosed in claim 10. See rejection of claim 1 for similarities. Ashitomi does not disclose that the touch panel is an analog resistive touch panel.

Aufderheide discloses an invention that is a touch screen system. Aufderheide teaches, in the background of his touch screen system, that (see column 1, lines 11-17), “Generally, touch sensors or touch screens, such as, capacitive or resistive touch screens, are used in front of a computer driven display capable of variable images or in front of a non-variable display capable of providing fixed images. The touch sensor or touch screen provides an interface so that a human can provide commands to a computer or other control device.”

Aufderheide further teaches in lines 41-42 of column 1, "Conventional resistive touch screens include matrix touch screens and analog touch screens."

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Ashitomi by having the touch panel be an analog resistive touch panel. One would have been motivated to make such a change based on the teaching of Aufderheide that analog resistive touch panels are among the conventional types of touch panels and provide "an interface so that a human can provide commands to a computer or other control device."

30. In regard to claim 12, Ashitomi discloses an invention similar to that which is disclosed in claim 12. See rejections of claims 1 and 11 for similarities. Ashitomi does not disclose that the conductive coating comprises indium tin oxide.

Aufderheide discloses in column 1, lines 54-57, "In analog resistive touch screen, the transparent conductive coatings...are often an indium tin oxide ("ITO") material. The conductive coatings have uniform sheet resistivity."

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Ashitomi, by having the conductive coating comprise indium tin oxide. One would have been motivated to make such a change based on the teaching of Aufderheide that the conductive coatings of analog resistive touch screens, which are conventional (see rejection of claims 10), "are often an indium tin oxide ("ITO") material. The conductive coatings have uniform sheet resistivity." Thus, ITO is a common and

conventional material for the conductive coating and gives a uniform sheet resistivity.

31. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi 6,662,244 B1.

In regard to claim 15, Takahashi discloses an invention similar to that which is disclosed in claim 15. See Takahashi rejection of claim 1 for similarities. Further see column 4, lines 58-65, disclosing that when the phone is closed (as in figure 4), "the power supply to the transmission type LCD 13 is suspended...the input/display section 11 becomes transparent...the information displayed on the display section 5 is clearly visible to the user." While, Takahashi does not disclose that the display 5 is an emissive display, this is inherent from the fact that it can be seen without the light source of the input/display section 11.

Takahashi further does not disclose that the cover does not include a lighting system. However, as disclosed in the previous paragraph, when the cover is closed, power to the lighting system (transmission type LCD) is suspended, and display 5 is clearly seen. This is functionally equivalent to having no light source.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Takahashi by having no lighting system in the cover. One would have been motivated to make such a change in view of the closed state of the portable telephone of Takahashi, in which no

lighting is provided in the cover. Takahashi further teaches in lines 64-65 of column 4 that such a state allows "the user to see the information displayed on the display section 5".

32. Claims 13, 20 and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi 6,662,244 B1 in view of Wilk 6,643,124 B1.

In regard to claims 13, 20 and 39, Takahashi discloses an invention similar to that which is claimed in claims 13, 20 and 39. See Takahashi rejection of claims 1, 17 and 38 for similarities. Takahashi does not disclose that the display is a flexible display.

Wilk discloses an invention in which a flexible display is disclosed. Wilk teaches in column 4, lines 45-52, "Lacking a requirement of rigidity, a flexible screen may be manufactured more thinly, and hence of reduced volume, relative to a rigid display panel. Flexible displays therefore reduce a volume requirement of a compactly folded unit. A flexible screen may in fact be the only way to obtain a given contiguous deployed display area on a small device, such as a cellular phone."

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the invention of Takahashi with that of Wilk by having the display of Takahashi be a flexible display. One would have been motivated to make such a change to the folded unit of Takahashi based on the teaching of Wild that flexible displays "may be manufactured more thinly, and

hence of reduced volume, relative to a rigid display panel” and “therefore reduce a volume requirement of a compactly folded unit.”

33. Claims 21, 40 and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi 6,662,244 B1 in view of Wilk 6,643,124 B1 as applied to claims 20 and 39 above, and further in view of Branson 2003/0071832 A1.

In regard to claims 21, 40 and 41 Takahashi in view of Wilk discloses an invention similar to that which is disclosed in claims 21, 40 and 41. See rejection of claims 20 and 39 for similarities. Takahashi in view of Wilk does not disclose that the flexible display expands, comprising at least one fold line dividing the flexible display into at least two display sections.

Branson discloses a flexible display device that comprises at least one fold line dividing the flexible display into at least two display sections. See figure 1 and paragraph [0027], disclosing “a user may fold the adjustable display device 100 along any of the vertical portions 109, 110, and 111, or along the horizontal portion 112”.

Branson further teaches in paragraph [0004], “Through recent advances in display technology, displays which are flexible in nature and thus able to be folded have been developed.” Further, in paragraph [0005], “A foldable display device is configured to fold in a similar manner as a wallet. In this manner, when the device is being carried around by a user, it may easily fit into the user’s shirt or jacket pocket. When in use, the user may unfold the display device such that the display screen size of the device is many times larger than the folded size.”

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Takahashi in view of Wilk by having the flexible display comprise at least one fold line dividing the flexible display into at least two display sections, and thus expand, as in the invention of Branson. One would have been motivated to make such a change based on the teaching of Branson that such folded displays have been developed and allow a device to become smaller for transport and many times larger for use.

Further in regard to claim 40, a foldable display that expands to a larger size is a large form factor display, as best understood.

34. Claims 22 –24, 33 and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi 6,662,244 B1 in view of Agnew 2002/0084992.

In regard to claims 22 –24, 33 and 43, Takahashi discloses an invention similar to that which is disclosed in claims 22 –24, 33 and 43. See rejection of claims 17, 28 and 38 for similarities, including a light source. Takahashi does not disclose a light guide or a light source comprising of a light emitting diode.

Agnew discloses a combined touch panel and display light in which a light guide is used. See paragraph [0022], disclosing “an light source 16, such as a light emitting diode (LED) provides illumination to a light guide 18, which provides light for front illumination of display panel 14.” Agnew further teaches in paragraph [0023], “Light guide 18 is designed to conduct light from source 16 across the area of the light guide and to alter the direction of the light downward into the display.”

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Takahashi by having a light guide with a light source comprising a light emitting diode, as in the invention of Agnew. One would have been motivated to make such a change based on the teaching of Agnew that a light guide can conduct light from a light source "across the area of the light guide" and "alter the direction of the light downward into the display." Further, the use of a light guide in illumination of a display or touch panel is common and conventional in order to direct light onto the panel or display with less loss. Further, light emitting diodes are a common and conventional light source, and it is a matter of design choice to use an LED, rather than any other type of light source.

35. Claims 29 and 34 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi 6,662,244 B1 in view of Agnew 2002/0084992 as applied to claim 33 above, and further in view of view of Moon 6,567,137 B1.

In regard to claims 29 and 34, Takahashi in view of Agnew discloses an invention similar to that which is claimed in claims 29 and 34. See rejection of claim 33 for similarities. Takahashi Agnew does not disclose that the light guide is configured to direct light toward at least a portion of the display when the cover panel is positioned over the display or that the display is at least one of a reflective, a transflective, and an emissive display.

Moon discloses an invention in which the light guide is configured to direct light toward at least a portion of a reflective display when the cover panel is

positioned over the display. See figure 7 and column 4, lines 9-10, disclosing "light source 60 includes...light guide plate 63". Also see figure 4, depicting the cover panel (light source 60) directing light toward at least a portion of display 52 when positioned over the display, and column 2, lines 60-67, disclosing, "an auxiliary light source apparatus for a reflective liquid crystal display according to an embodiment of the present invention includes a main body; a reflective display module connected pivotally to the main body; and an auxiliary light source, the auxiliary light source being opened and closed from and to the reflective display module, for radiating light onto a display area of the reflective display module."

Moon further teaches in column 2, lines 48-50, that "An object of the present invention is to provide an auxiliary light unit for a reflective liquid crystal display that is adapted to radiate light uniformly."

It would have been obvious to modify the invention of Takahashi in view of Agnew, by having the light guide configured to direct light toward at least a portion of a reflective display when the cover panel is positioned over the display, as in the invention of Moon. One would have been motivated to make such a change based on the teaching of Moon to use such a configuration to radiate light onto a reflective display module and to radiate light uniformly.

Further in regard to claim 29, having the display panel be at least one of a reflective, a transfective, and an emissive display is common and conventional,

and it is a matter of design choice as to which display type to use in general electronic devices.

36. Claims 25-27 and 35-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi 6,662,244 B1 in view of Aufderheide et al. 6,555,235 B1.

In regard to claims 25 and 35, Takahashi discloses an invention similar to that which is disclosed in claim 25. See rejection of claims 17 and 28 for similarities. Takahashi does not disclose that the touch panel is an analog resistive touch panel.

Aufderheide discloses an invention that is a touch screen system. Aufderheide teaches, in the background of his touch screen system, that (see column 1, lines 11-17), "Generally, touch sensors or touch screens, such as, capacitive or resistive touch screens, are used in front of a computer driven display capable of variable images or in front of a non-variable display capable of providing fixed images. The touch sensor or touch screen provides an interface so that a human can provide commands to a computer or other control device." Aufderheide further teaches in lines 41-42 of column 1, "Conventional resistive touch screens include matrix touch screens and analog touch screens."

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Takahashi by having the touch panel be an analog resistive touch panel. One would have been motivated to make such a change based on the teaching of Aufderheide that analog resistive

touch panels are among the conventional types of touch panels and provide "an interface so that a human can provide commands to a computer or other control device."

37. Further in regard to claim 25 and in regard to claims 26 and 36, Takahashi discloses an invention similar to that which is disclosed in claims 26 and 36. Takahashi does not disclose that the touch panel comprises a first and second sheet, wherein at least one of the first and second sheets include a conductive coating.

Aufderheide discloses a touch screen system, teaching (see column 1, lines 26-38, "a conventional resistive touch screen includes two layers which are often referred to as a flex layer and a stable layer. Both the flex layer and the stable layer have transparent conductive coatings on opposing surfaces. A spacer material (or materials) separates the flex layer and the stable layer from each other. The spacer material ensures that an air gap or other relatively non-conductive medium separates the conductive coatings when the touch screen is not touched or depressed. When the outer front surface of the touch screen is deformed or pressed, the two transparent conductive coatings are brought into electrical contact."

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Takahashi by having the touch panel comprises a first and second sheet, wherein at least one of the first and second sheets include a conductive coating. One would have been motivated to

make such a change based on the teaching of Aufderheide that such an arrangement is found in a conventional resistive touch panel.

38. In regard to claims 27 and 37, Takahashi discloses an invention similar to that which is disclosed in claims 27 and 37. See rejections of claims 25, 26, 35 and 36 for similarities. Takahashi does not disclose that the conductive coating comprises indium tin oxide.

Aufderheide discloses in column 1, lines 54-57, "In analog resistive touch screen, the transparent conductive coatings...are often an indium tin oxide ("ITO") material. The conductive coatings have uniform sheet resistivity."

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Takahashi, by having the conductive coating comprise indium tin oxide. One would have been motivated to make such a change based on the teaching of Aufderheide that the conductive coatings of analog resistive touch screens, which are conventional (see rejection of claims 10), "are often an indium tin oxide ("ITO") material. The conductive coatings have uniform sheet resistivity." Thus, ITO is a common and conventional material for the conductive coating and gives a uniform sheet resistivity.

39. Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi 6,662,244 B1 in view of Branson 2003/0071832 A1.

In regard to claim 1, Takahashi discloses an invention similar to that which is disclosed in claim 30. See rejection of claim 28 for similarities. Takahashi

does not disclose that the display panel is a foldable display that is movable between a collapsed and an expanded position.

Branson discloses a foldable display that is movable between a collapsed and an expanded position. See figure 1 and paragraph [0027], disclosing "a user may fold the adjustable display device 100 along any of the vertical portions 109, 110, and 111, or along the horizontal portion 112". Branson further teaches in paragraph [0004], "Through recent advances in display technology, displays which are flexible in nature and thus able to be folded have been developed." Further, in paragraph [0005], "A foldable display device is configured to fold in a similar manner as a wallet. In this manner, when the device is being carried around by a user, it may easily fit into the user's shirt or jacket pocket. When in use, the user may unfold the display device such that the display screen size of the device is many times larger than the folded size."

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Takahashi by having the display panel be a foldable display that is movable between a collapsed and an expanded position, as in the invention of Branson. One would have been motivated to make such a change based on the teaching of Branson that such folded displays have been developed and allow a device to become smaller for transport and many times larger for use.

Conclusion

40. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Bowen et al. 6,046,730 discloses a hinged device with a display, touch panel and lighting system.

Lahteenmaki 2002/0042291 A1 discloses an invention with separate touch panel and display.

Grenda 2003/0095399 A1 discloses a light emitting diode light bar.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Laurel E LeFlore whose telephone number is (703) 305-8627. The examiner can normally be reached on Monday-Friday 8-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Mancuso can be reached on (703) 305-3885. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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**JOSEPH MANCUSO
PRIMARY EXAMINER**